

This is a non-provisional application corresponding to provisional application 60/477,589 (attorney's file RPOST-63691) filed on February 14, 2003 in the United States Patent and Trademark Office by Louis Angerame, for Improvements in System for, and Method of, Providing Information From a Second Party to a First Party Relating to Inventory.

This invention relates to systems for, and methods of, providing information from a vendor to a customer (a wholesaler or retailer) relating to inventory of a product at the vendor or at the vendor's customer. In one embodiment, the vendor provides an indication of the inventory of the product at the vendor when the customer has a low inventory of the product and the customer seeks to obtain the product from the vendor's inventory. In another embodiment, the vendor seeks to determine the customer's inventory of the product so that the vendor can replenish the customer's inventory when the customer's inventory is low. The invention has application to various types of transaction data, only one of which is inventory of a product or products.

The invention particularly relates to improvements in systems and methods disclosed and claimed in a patent application 10/229,503 (attorneys file GCOMM-61815) filed by Louis Angerame in the United States Patent and Trademark Office on or about August 28, 2002 for IMPROVEMENTS IN SYSTEM FOR, AND METHOD OF, PROVIDING INFORMATION FROM A SECOND PARTY TO A FIRST PARTY RELATING TO INVENTORY and assigned of record to the assignee of record of this application.

BRIEF DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

Information at a vendor relates to inventory of products sold to a customer. The customer programs a databot at the vendor, in accordance with rules established by the customer, to have the vendor specify to the customer at particular times the inventory at the vendor for the products. In accordance with this programming, the vendor provides to the customer at the particular times through a databot the information relating to the inventories of the products at the vendor. The customer indicates to the vendor whether it wants the products shipped promptly or at a specified later time. The vendor records this information in a data base and gives the customer a report, at times, of the status of the orders including products shipped and products to be shipped.

BACKGROUND OF THE PREFERRED EMBODIMENTS OF THE INVENTION

For decades, vendors and their customers (wholesalers and retailers) have attempted to establish relationships where the wholesalers and retailers retain a minimal inventory of a product and where the vendor instantly replenishes the customer's inventory of the product when the customer's inventory of the product becomes low. For example, Japanese car makers have used this technique for years with their parts suppliers to reduce their costs in manufacturing and selling motor vehicles. This technique has been characterized in the press as "just in time". "Just in time" has insured that car manufacturers will receive inventory of parts in time to maintain a steady rate of car production.

Although much progress has been made in refining these techniques, these techniques are still relatively crude in comparison to what experts in the field foresee for the future. This is particularly true since the creation of the internet. This results from the fact that the internet provides for instantaneous communication between the vendor and the vendor's customer. This instantaneous communication is available even though the vendor and the vendor's customer may be physically separated from each other by great distances. Furthermore, communication through the internet between the vendor and the vendor's customer can be established through the internet on a minimal cost basis.

In recent years, a number of companies have been established to provide communications through the internet between a vendor and a vendor's customer concerning inventory of a product. These communications have been provided in an attempt to maintain a continuing, but

low, supply of a vendor's product at the vendor's customer. The vendor's customer may be a wholesaler or retailer which in turn resells the vendor's products to customers of the wholesaler or retailer.

5 The companies established in recent years have been designated as 'business-to-business (or "b to b"). Considerable hype has been provided in the press concerning the importance of these companies in enhancing the efficiency of business operations. The enhancement in efficiency has been shown with the passage of time to be illusory. The different techniques provided by these companies have been shown with the passage of time to be crude and even
10 flawed. Many of these companies are now either out of business or have been reduced substantially in size and financial resources so that they are no longer effective. In spite of this, the need still exists, perhaps now more than ever, to provide a simple, operative and efficient system for, and method of, maintaining an effective, but lean, supply of a vendor's product at the vendor's customers.

15 In co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815), systems and methods are disclosed and claimed for providing information at a second party relating to its inventory of products. A first party programs a databot at the second party, in accordance with rules established by the first party, to have the second party specify to the first
20 party at particular dates and times the inventories of the individual ones of the different products supplied by the second party to the first party. In accordance with this programming, the second party provides to the first party at the particular times the information relating to the inventories of the different products at the second party. The first party may be a vendor or a customer

(wholesaler or retailer) of the vendor and the second party may be the other one of the vendor or the vendor's customer. Thus, the vendor can continuously maintain the inventory of the product at the vendor's customer at a lean but efficient level.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

Figure 1 is a schematic diagram of a system disclosed in co-pending application Serial
5 No. 10/229,503 (attorneys file GCOMM-61815) and providing for a vendor's customer
(wholesaler or retailer) to inquire of the vendor concerning the inventory of a product at the
vendor when the vendor's customer has a low inventory of the product;

Figure 2 is a schematic diagram of the embodiment shown in Figure 1 and shows the
embodiment in additional detail;

10 Figures 3A and 3B are schematic diagrams of the embodiment shown in Figures 1 and 2
and show the operation of the vendor on an intranet basis and the communication between the
vendor and the vendor's customer on an internet basis;

Figures 4 and 5 constitute a composite flow chart showing a prior art procedure in which
a vendor's customer receives an inquiry from a user concerning the availability of a product and
15 in which the vendor's customer obtains this information from the vendor;

Figure 6 is a flow chart which is included in the embodiment shown in Figures 1, 2, 3 and
3a and in which the embodiment performs functions on a simpler and more efficient basis than
the prior art;

Figure 7 is a flow chart showing a prior art procedure for checking the status of an
20 unfilled order previously made by a user to a vendor's customer;

Figure 8 constitutes a flow chart included in the embodiment shown in Figures 1, 2, 3, 3a
and 5 for performing functions on a simpler and more efficient basis than the prior art shown in
Figure 7;

Figures 9 and 10 constitute a composite flow chart showing a prior art procedure for the placing of an order by a customer;

Figure 11 is a flow chart showing the procedure of the embodiment shown in the previous Figures for the placing of an order by a customer;

5 Figure 12 is a flow chart showing a prior art system for obtaining the tracking of an order previously placed by a customer;

Figure 13 is a flow chart showing in additional detail the system and method shown in individual ones of the previous Figures for obtaining the tracking of an order previously placed by a customer;

10 Figure 14 is a flow chart showing in additional detail how the system and method shown in individual ones of the previous Figures progressively focus at the vendor's facility on the location of information relating to the inventory of a product ordered by a customer so as to determine the inventory of the product at the vendor's facility;

15 Figures 15 and 16 constitute a composite flow chart showing in further detail how the system and method shown in individual ones of the previous Figures progressively focus at the vendor's facility on the location of information relating to the inventory of the product ordered by a customer so as to determine the inventory of the product at the vendor's facility;

20 Figures 17 and 18 constitute a composite flow chart operative in conjunction with individual ones of the previous Figures and showing how the vendor determines the inventory of the product at the vendor's facilities and transmits this information to the facilities of the vendor's customer;

Figure 19 constitute a flow chart operative in conjunction with individual ones of the previous Figures and showing in additional detail how the vendor determines the inventory of the

product at the vendor's facility of the product ordered at the facility of the vendor's customer and transmits the information to the facility of the vendor's customer;

Figure 20 is a flow chart operative in conjunction with individual ones of the previous Figure 1 and showing how the vendor determines the times for the transmission to the vendor's customer of the information relating to the inventory of the product at the vendor's facility;

Figure 21 is a flow chart operative in conjunction with individual ones of the previous Figures and showing how the vendor's customer determines the times for the vendor to provide information relating to inventories of individual ones of different products being purchased by the customer from the vendor;

Figure 22 is a flow chart operative in conjunction with individual ones of the previous Figures and indicating how the vendor progressively focuses on the information relating to the inventories of the vendor with respect to individual ones of the products being purchased by the vendor's customer from the vendor;

Figures 23 and 24 constitute composite flow charts which are operative in conjunction with individual ones of the previous Figures and which show how the vendor (1) selects information relating to the inventory of an individual one of the products, (2) transfers this information to the vendor's customer, and (3) the vendor's customer uses this information;

Figure 25 is a flow chart showing the operation of another embodiment of the system disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815), the vendor operating in this embodiment to obtain information concerning the inventory of individual products at the vendor's customer so as to make certain that the vendor's customer has a sufficient inventory of these individual products to satisfy any reasonable demand for these products at the vendor's customer;

Figure 26 provides simplified flow charts showing how each party provides to the database at the other party information relating to one product in a sequence while receiving information from a database relating to a next product in the sequence;

5 Figure 27 is a simplified flow chart showing how each party continues to activate its databot so that the databot is ready to receive information from the associated database when the database is activated;

Figure 28 is a flow chart showing how a spreadsheet such as an Excel spreadsheet can be substituted in place of a database at the vendor's customer to transmit rules to the vendor relating to the dates and times for the vendor to submit to the vendor's customer the inventory of the
10 vendor for the different products sold by the vendor to the vendor's customer; and

Figure 29 is a block diagram further showing the construction and operation of a spreadsheet system providing for the operation in accordance with the flow chart shown in Figure 28;

Figure 30 is a schematic diagram, primarily in block form, of a system indicating, at
15 times pre-selected by one of a corporate customer and a vendor, the status of orders previously provided by the corporate customer to the vendor;

Figure 31 is a flow chart showing how the corporate customer places an order with the vendor for a product and views the status at the vendor of open and shipped orders of the product ordered by the corporate customer;

20 Figure 32 is a schematic diagram, primarily in block form, of a system indicating the provision of order information from the customer to the vendor and the provision from the vendor to the corporate customer of status information concerning these orders;

Figure 33 is a flow chart indicating the passage of information concerning the status of orders from the databot at the corporate customer to the databot at the vendor and then from the databot at the vendor to the databot at the corporate customer;

5 Figure 34 is a schematic diagram, primarily in block form, showing the transfer of orders from the database at the corporate customer to the database at the vendor;

Figure 35 is a flow chart indicating the initial determination at the corporate customer of the availability of a product at the vendor and the subsequent submission of an order of the product by the corporate customer to the vendor upon a determination at the corporate customer of the product availability at the vendor; and

10 Figure 36 is a flow chart indicating the flow path of data between the corporate customer and the vendor when the corporate customer wishes to obtain immediate delivery of a product in an order and when the customer is willing to wait for the delivery of the product to the next time pre-selected by the corporate customer for the delivery of the product by the vendor to the corporate customer; and

15 Figure 37 is a flow chart showing how a vendor processes an order from a corporate customer when the order is to be fulfilled immediately or when an order is to be fulfilled at the future pre-selected time.

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DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Figure 1 is a schematic diagram illustrating the operation of a preferred embodiment, generally indicated at 11, of an invention disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815). In this preferred embodiment, the corporate offices 10 of a purchaser, generally indicated at 12, constituting a retailer or wholesaler, lists the inventory of different products which the company sells. The different products may be in a particular field, such as vehicle components for replacing worn or defective components in vehicles. Alternatively, the different products may be in a number of different lines as dissimilar as those carried by Wal-Mart. The purchaser 12 may have a number of different selling locations, one of which is illustrated at 14. The number of different selling locations of the purchaser 12 may be quite large such as, for example, the number of stores in the Wal-Mart organization or may be any amount smaller than the number of stores in the Wal-Mart organization.

A customer 13 may approach the store 14 and tell the customer's service representative (e.g. sales clerk) 15 at the store that he wants to buy an alternator for a 1996 Buick LeSabre. The sales clerk may then see if the alternator is in stock at the store. If the alternator is not in the inventory at the store, the sales clerk 15 may inquire through the intranet or internet to determine from the corporate offices 10 if a unit of the alternator is available at the corporate offices or at another store in the corporate organization. If a unit of the alternator is available at the corporate offices 10 or at another store in the corporate organization, the corporate offices will notify the

store 14 of the availability of the unit and will ship, or have shipped, the alternator unit to the store.

It may be that an alternator unit is not available at the corporate offices 10 or at any of the company's stores such as the store 14. This invention provides for the corporate office 10 of the purchaser 12 to determine at specified times the inventory that a vendor 16 (the supplier of the alternator to the company 12) has of the alternator. These times for the vendor 16 to communicate with the purchaser 12 are specified by the corporate office 10 of the purchaser 12 to the vendor 16. At the specified times, the vendor 16 transmits to the corporate office 10 of the purchaser 12 through the internet the inventory of the alternator that the vendor can supply immediately to the purchaser. In this way, the corporate office 10 of the purchaser 12 is able to obtain from the vendor 16 an inventory of the alternator at the vendor on an immediate basis when the store 14 has run short of units of the alternator. The corporate office 10 of the purchaser 12 promptly relays this information to the store 14 where the customer 13 is located. This helps the customer 13 to maintain good relations with its customers.

It will be appreciated that the inventory of the vendor 16 at the purchaser 12 may relate to a plurality of products only one of which may be the alternator. It will be further appreciated that the vendor may have a plurality of inventory stations and that the inventory information provided by the vendor 16 to the corporate office 10 of the purchaser 12 may be an accumulation of the inventory at all of the different vendor stations. Furthermore, applicant's invention has broader utility than the indication of inventory without departing from the scope of the invention.

For example, the information transferred from the vendor 16 may relate to transaction data of all different types and may involve different types of information than inventory.

Figure 2 provides additional information concerning the communication between the purchaser 14 and the vendor 16 concerning the inventory of the alternator at the vendor. As shown in Figure 1, the corporate office 10 communicates with the vendor 16 by transmitting rules to the vendor for the times of the transfer of specific inventory information at the vendor to the corporate office 10. The rules may be transmitted by the purchaser's corporate office 10 to a databot 20 in a server 22 at the vendor.

The databot 20 may be considered to constitute a database at the vendor 16 for converting the rules from the purchaser's corporate office 10 to a form which is transmitted through the intranet to a corporate data base 21 at the vendor. The data base 21 and a unit processor 24 then operate in accordance with these rules to determine the inventory of the alternator at the vendor.

This information is then transmitted through the intranet to the server 22 at the vendor 16 which conveys this information through the internet to a power site data base 26 at the purchaser's corporate office 10. The data base (PSDB) 26 transfers this information to a server 28 which in turn conveys this information through the internet to the purchaser's corporate office 10.

Although this transfer of information has been described in this paragraph for the alternator, it will be appreciated that the same discussion applies to all of the other products which the vendor 16 supplies to the purchaser 12.

Figure 3A is a flow chart of the system and method disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and shows the transactions between the purchaser's corporate office 10 and the vendor 16 through the internet. Figure 3A includes the power site data base 26 and the server 28 at the purchaser's corporate office 10.

5 Figure 3A also includes the databot 20 and the server 22 at the vendor 16. Figure 3B shows the databot 20 and the server 22 at the vendor 16. Figure 3B also shows how the databot 20 communicates through the intranet with various processing equipment at various warehouses of the vendor such as a warehouse indicated in broken lines at 30. This processing equipment may include a Unix processor 32, Oracle equipment 34 and IBM equipment such as the IBN AS/400
10 equipment 36 and DB1/1400 equipment 38. It will be appreciated that the Unix, Oracle and IBM equipments are only exemplary of the equipments that can be provided. The Unix, Oracle and IBM equipments operate to determine the inventory of various items at the vendor's warehouses.

Figures 4 and 5 are flow charts showing how systems of the prior art operate to determine
15 whether a vendor has units of a product such as an alternator when a customer needs the alternator and the purchaser's corporate office and the branch offices of the purchaser do not have the alternator in stock. As a first step indicated at 40, the customer 13 (e.g., 14 in Figure 1) enters a branch store of the purchaser and attempts to purchase a unit of the alternator. As indicated at 40, the customer learns from the purchaser's sales clerk 15 that the alternator is not
20 in stock at the branch 14 of the purchaser. If the customer 13 does not wish to push the matter further (see "No" at 42), the matter relating to the purchase of the alternator by the vendor is ended. This is indicated at 44 in Figure 4.

5 If the customer 13 desires to obtain additional information about the status of his order to obtain the alternator, the customer answers affirmatively at 43. The customer then asks the customer service representative 15 to check the status of the alternator (see 44). The customer service representative 15 then obtains the product name and the vendor's name and telephones the purchaser's buyer (see 46 in Figure 4). If the corporate buyer is not available, this is the end of the status check at this time. This is indicated at 48 In Figure 4. If the corporate buyer is available as indicated at 50 in Figures 4 and 5, the corporate buyer calls the vendor as indicated at 52. If the vendor is not available (see 54 in Figure 5), this is the end of the inquiry check at this time. This results from the interconnection between the line 48 in Figure 5 and the line 48 in Figure 4.

15 If the vendor is available at this time as indicated at 55 in Figure 5, the corporate buyer asks the vendor if the alternator is currently available. This is indicated at 56. The vendor then puts the corporate buyer on hold and checks the inventory of the alternator at the vendor (see 57). When the corporate buyer obtains information concerning the level of the alternator inventory at the vendor, he reports this to the customer service representative. This is indicated at 58. The customer service representative then reports this inventory to the customer (see 60).

20 As will be seen from Figures 4 and 5 and the discussion above concerning Figures 4 and 5, the process represented by the flow chart is slow and inefficient. The customer relies on phone calls to be made by the customer service representative to the corporate buyer, and then by the corporate buyer to the vendor, with the distinct possibility that either the corporate buyer or the vendor is not available. When the corporate buyer or the vendor is not available, the process

shown in Figures 4 and 5 has to be repeated from the beginning of Figure 4. Furthermore, phone calls are not an efficient mode of communication even if the process is consummated from the beginning of the flow chart in Figure 4 to the end of the flow chart in Figure 5.

5 Figure 6 is a flow chart of the system and method disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) for checking the availability of inventory to satisfy an order made by the customer 13 to a customer service representative 15 at the purchaser's branch store 14. As a first step indicated at 62, the customer 13 enters the purchaser's branch store 14 and asks the customer's service representative 15 to check if the unit
10 of the alternator is available. The customer's service representative then indicates that the unit is not available at the store. This is indicated at 63 in Figure 6. If the customer indicates that he does not want any further check to be made, no further work is performed as indicated at 64 in Figure 6.

15 If the customer wants to make further checks of the order see (see 66), the representative first checks with the purchaser's corporate office 10 to determine from the office 10 if a unit of the order is available at the office or at one of the other selling offices of the purchaser. If the purchaser 14 has a unit of the alternator at its corporate office or at one of its selling offices, the purchaser arranges to have the unit of the alternator delivered to the customer. All of the acts
20 specified in this paragraph may be considered to be included within a block 68.

 If the purchaser 14 does not have a unit of the alternator at one of its facilities, the purchaser determines from its records if the vendor has a unit of the alternator in its inventory.

This step may also be considered to be included within the block 68 in Figure 6. The purchaser does not have to make a determination at this time because the purchaser periodically receives from the vendor 16 an indication of the inventory of the alternator at the vendor. The indication of the inventory of the alternator at the vendor has been previously determined by the vendor in accordance with the rules established by the purchaser 14 and has been transmitted to the purchaser by the vendor at the time of the determination by the vendor. Thus, a fresh determination of the inventory of the alternator at the vendor is always available to the purchaser corporate office 10. This determination of the inventory availability is indicated to the customer as shown at 70 in Figure 6. The purchaser 14 then orders a unit of the alternator from the inventory at the vendor and delivers this unit to the customer 13 when the purchaser receives the unit from the vendor, assuming that the vendor 16 has inventory of the alternator at that time..

Figure 7 is a flow chart showing a prior art system for, and method of, checking the status of an order such as the order of the customer 13 for the unit of the alternator. As a first step 72 in the flow chart, the customer 13 walks into the purchaser's store 14 and asks the customer service representative to check the status of the order. The customer service representative then calls the purchaser's buyer (see 74). If the buyer is not available, the store clerk 15 tells the customer 13 of the buyer's unavailability and this is the end of the procedure. If the buyer is available (78), the buyer calls the vendor as indicated at 80. If the vendor is not available (see 82), this is the end of the sequence. If the vendor is available (82), the vendor indicates the status of the order to the buyer and the buyer tells this information to the customer service representative. This is indicated at 84 in Figure 7. As will be seen, this procedure is slow and complicated and can be interrupted at several instants because of the unavailability of personnel.

Figure 8 is a flow chart showing the system and method disclosed and claimed in co-pending application Serial No. 10/229,098 (attorneys file GCOMM-61815) for checking the status of an order. As a first step 86, the customer 13 walks into the purchaser's store 14 and, as indicated at 84, asks the purchaser's customer service representative 15 for the status of his order for the alternator. The customer service representative then obtains the customer's order number from the purchaser's data files. The customer service representative also obtains the status of the order from the purchaser's data files. This information includes the following: (1) the entry of this order by the purchaser, (2) the receipt of the order by the vendor, (3) the shipment of the alternator by the vendor to the purchaser to fulfill the order and (4) the receipt of the alternator by the purchaser. The status report is indicated at 88 in Figure 8.

Figures 9 and 10 are flow charts of a prior art system for, and method of, tracking an order previously placed by the customer 13 to the customer's service representative 15 at the purchaser 14. The prior art system includes the step 90 relating to the entrance by the customer into the purchaser's store and the order by the customer of the alternator. The customer's service representative enters the order on an order form and phones the corporate buyer to place the order if the alternator is not available at the purchaser's store 14. That is indicated at 92. If the buyer is not available as indicated at 94, the customer's service representative sends a facsimile to the order to the buyer as indicated at 96 and the customer departs.

If the buyer is available (see 98), the buyer obtains the information to identify the order and calls the vendor if the purchaser 14 cannot fill the order from its inventory. This is indicated at 100. If the vendor is not available, the buyer places the order by facsimile and gives no date to

the customer's service representative as to when the order will be filled by the vendor. This is indicated at 101. This constitutes the end of the flow chart under such circumstance. If the vendor is available (102 in Figures 9 and 10), the buyer determines the inventory of the order at the vendor and places the order as indicated at 104 in Figure 10. The customer's service representative 15 then indicates to the customer 13 that the order has been placed. See 106 in Figure 10.

Figure 11 is a flow chart showing how an order is placed and processed by the system and method disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys 10 file GCOMM-61815). As a first step as indicated at 104, a customer walks into one of the purchaser's branch store 14 and places an order. The representative then uses the system of this invention to check the inventory available as indicated at the purchaser's corporate office 10. This checking is indicated at 106 in Figure 11. If the inventory is not available from the indications at the purchaser's corporate office 10 (see 108), or at the branch stores such as the 15 branch store 14, the customer may wish to place the order anyway. See 110 in Figure 11. If the customer does not wish to place the order, this is the end 112 of the sequence.

If the inventory is available at the purchaser's corporate office 10 or at the branch stores (see 10), information for placing the order is provided by the customer and the service 20 representative. This may include the name, address and telephone number of the customer, the quantity of the item (e.g. the alternator) being ordered, and the stock keeping unit of the item at the purchaser's corporate office 10. This is indicated at 116. The customer service representative then sends the order, and the information relating to the order, to the purchaser's

corporate offices. This is indicated at 118. The purchaser's corporate office 10 then enters the order into its system as indicated at 120.

Figure 12 is a flow chart of a prior art system for tracking an order. The customer enters
5 a branch store 14 of the purchaser 12 to inquire as to the status of a previously placed order. The branch store 14 telephones or faxes the purchaser's corporate office 10 (see 122) to make this inquiry. The corporate office 10 then telephones or faxes the vendor 16 (see 124) to make this inquiry. This is a lengthy and cumbersome procedure with a good chance that the transaction
10 will not be completed because of unavailability of personnel. Furthermore, the process is slow and inefficient.

Figure 13 is a flow chart showing how the system disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) operates to track an order. The customer 13 enters into the purchaser's store 14 to track the order. The store communicates
15 through the internet with the power site database 26 at the purchaser's corporate office 10. The purchaser's corporate office 10 then communicates through the internet with the databot 20 which obtains the information from the database at the server 22. This information is then transferred through the internet to the purchaser's corporate office 10 and then through the internet to the purchaser's store 14. In this way, the customer 13 is advised as to the status of his
20 order for the alternator.

Figure 14 is a flow chart of the system and method disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and indicates how the vendor

16 is set up to provide information to the purchaser 14 concerning the inventory of a particular order such as the alternator. The server 22 at the vendor 16 obtains this information at the databot 20 through the intranet from an internet protocol machine 130 at the vendor 16. The vendor 16 then selects the type of database (e.g. Oracle) 132 being used and then selects table or the portion 134 of the database where the data related to the inventory of the alternator is located. If the database is secure, the vendor may have to specify the table or portion 134 and give a predetermined password to enter the portion or table of the server 22 where the information relating to the inventory of the alternator is located. As a final step, the vendor selects the rows 136 where the information relating to the inventory of the alternator is located. As will be seen, the vendor 16 progressively focuses in on the location of the inventory of the alternator in the vendor's database.

Figures 15 and 16 constitute a composite flow chart of the steps taken by the vendor 16 in the system and method disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) to accomplish the steps shown in Figure 14 and specified in the previous paragraph. As a first step as indicated at 138, the vendor 16 selects the path of the local (or vendor's) database. In other words, the vendor 16 accesses the database in the personal computer or server 22 where the databot is operating. The vendor 16 then selects the local database type (e.g. Oracle). (See 140 in Figure 15.) The vendor 16 then determines whether the selected database is on the vendor's list (see 142) which lists the local databases that can be accessed. If the selected database is not on this list, the vendor 16 contacts the company which has installed the system to have the system on the vendor's list (see 144). In this way, the vendor 16 can be connected to the selected database even though the selected data base is not on the

vendor's list. This is the end 145 of the sequence where the selected database is not on the vendor's list.

If the selected data base is on the vendor's (145) list, a determination (146) is made as to whether a valid dynamic server name (DSN) connection is available. If the answer is "no" as indicated at 148, a dial-up modem (see 150) is configured or dialed. If this is done as indicated at 152, the vendor's internet protocol address is dialed or configured (see 154) to obtain the vendor's server 22 as indicated at 130 in Figure 14. As will be seen in Figure 15, the vendor's internet protocol address is also dialed or configured when the dynamic server name (DSN) (see 156) is available.

As a next step as indicated at 158 in Figure 15, the database in the server 22 is configured to select the type of the local database as discussed above in connection with block 132 in Figure 14. A signal is then provided on a line 159 in Figures 15 and 16. This causes the database in the server 22 to be configured (see 160 in Figure 16) to submit the table name and password in accordance with 134 in Figure 14. The table name and password are submitted in order to select the portion or table of the server 22 where the information relating to the inventory of the alternator at the vendor 16 is located. The selection of the portion or table of the server 22 storing the information relating to the alternator is indicated at 162 in Figure 16. This information is saved (164). The next step of determining the specific rows in the table or portion in Figure 14 for the storage of the information relating to the inventory of the alternator at the vendor is not shown in Figure 16 since this step is performed at the purchaser's central office 10.

Figure 17A constitutes a flow chart which is included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and which further defines the relationship between the databot 20 at the vendor 16 and the database in the server 28 at the purchaser's corporate office 10. As a first step in Figure 17A, the vendor 16 provides information relating to the parameters shown in Figure 14 and discussed above. These include (1) the internet protocol in the server 22 at the vendor, (2) the selection of the type (e.g. Oracle) of the database at the vendor, (3) the portion or table 134 of the database holding the information relating to the inventory of the alternator at the vendor and (4) the rows 136 specifically holding in the portion or table 134 the information relating to the inventory of the alternator at the database. This information is provided through the intranet to the databot 20 at the vendor 16. The information is then transmitted through the internet to the power site database 26 in the server 28 at the purchaser's corporate office 10. It will then be appreciated that the showing in Figure 17A and in all of the previous drawings and the discussion in this paragraph, and in all of the previous paragraphs, apply equally as well to all of the different products supplied by the vendor 16 to the purchaser 12 as it does to the alternator specified in the previous discussion.

Figures 18B and 18b are included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and provide a composite flow chart relating to the operation at the vendor 16 in providing to the purchaser's corporate office 10 the information specified in the previous paragraph. As a first step indicated at 166 in Figure 18a, the vendor operates the databot 20 to select a remote tab indicating the identity of the purchaser's corporate office 10. The selection of the remote tab by the vendor 16 is indicated at 168. The vendor then enters the remote location identification (constituting the identification number) of the purchaser's

corporate office 10 (see 170). The vendor subsequently enters the internet protocol address at the purchaser's corporate office 10. This is indicated at 172 in Figure 18a. It corresponds to the location where the power site database 26 exists at the purchaser's corporate office 10. A line 173 extends from the bottom of Figure 18a to the top of Figure 18b to indicate that the flow chart continues in Figure 18b.

The vendor 16 thereafter enters the remote login and password to provide for a transmission through the internet to the purchaser's corporate office 10 of the information relating to the inventory of the alternator at the vendor. This is indicated at 174 in Figure 18b.

As previously indicated, the login and password is to provide for the information to pass through the firewall established between the vendor 16 and the purchaser's central office 10. The firewall is provided to keep secure the information passing between the vendor 16 and the purchaser's corporate office 10.

The vendor then enters the remote e-mail address of the purchaser's corporate office (see 175). The vendor subsequently enters the remote port number for the firewall as indicated at 176. The vendor then hits the save button, as indicated at 178, to have the information saved. The vendor's databot then connects through the internet to the purchaser's corporate office 10 as indicated at 180. If the connection is not provided, the vendor may wish to check, as at 182, if the internet connection has been provided to the purchaser's corporate office 10 and if the information to be transmitted is valid. This information is shown in Figures 18a and 18b and in Figure 14 and is discussed above. If the connection is provided, the information shown in Figure

14 and the information shown in Figures 15 and 16 are transmitted by the vendor 16 to the purchaser's corporate office 10. This is indicated at 183 in Figure 18b.

Figure 19 is a flow chart included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and shows the times at which the vendor 16 transmits to the purchaser's corporate office 10 the information relating to different products that the vendor sells to the purchaser's corporate office. The times for providing the transmission of this data from the vendor 16 to the purchaser's corporate office 10 are provided by rules established by the purchaser's corporate office to the vendor. A simple set of rules would specify that the vendor 16 sends to the purchaser's corporate office 10 in sequence indications of the inventory of each product sold by the vendor to the purchaser 12. For example, this transmission would be at spaced time intervals for all of the different products sold by the vendor to the purchaser. A more sophisticated set of rules would provide for the interval between successive transmissions relating to inventory to depend upon additional factors.

For example, one factor may be the volume at which the vendor 16 sells each individual product to the purchaser 12. For example, the vendor 16 may have to provide to the purchaser the indication of the inventory relating to a fast selling product more often than the inventory relating to a slow selling product. Another factor may be the price of the product. For example, the inventory relating to a high priced product may be transmitted by the vendor to the purchaser more often than the inventory of a product selling at a price less than a dollar. Still another factor may be seasonal. For example, the transmission to the purchaser 12 of information relating to the inventory of toys may occur more often during the Christmas season than at other

times of the year. Similarly, the transmission of inventory to the purchaser 12 relating to swim suits may occur more often in the spring and summer than during the fall and winter.

Figure 19 is included in co-pending application Serial No. 10/229,503 (attorneys file
5 GCOMM-61815) and shows that the server 22 database at the vendor 16 provides information relating to the inventory of a product such as the alternator to the databot 20 at the vendor. The vendor then transmits this information to the purchaser's corporate office 10. This information may include the interval (such as in hours and/or minutes) between successive transmissions. It may also include the time of the day, and the day(s) of the week, that the transmission occurs
10 with respect to each individual product such as the alternator.

Figure 20 is a flow chart included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and shows how the vendor 16 responds to the rules established by the purchaser's corporate office 10 and transmitted by the purchaser to the vendor 16. As a
15 first step 184 in the flow chart shown in Figure 20, a determination is made as at 18A at the vendor 16 as to whether the vendor is collecting the rules from the purchaser's corporate office. If the answer is no (see 186), this is the end of the procedure shown in Figure 20. If the answer is yes (187), a determination is made as to whether there is to be an interval between successive transmissions concerning the inventory of the alternator. If the answer is yes (188), the time
20 interval is set (e.g. in minutes) as at 190. If the answer is no (192) to indicate that the time interval does not have to be set, the time of the day for indicating the inventory of the alternator is set. This is indicated at 194. An inquiry (196) is accordingly provided to indicate whether the data indicating the inventory of the alternator at the vendor 16 should be collected every day. If

the answer is no (198), the day for collecting the data to indicate the inventory of the alternator at the vendor is set as indicated at 200. If the answer is yes as indicated at 202, the data is collected every day at the time set in the block 194.

5 Figure 21 is a flow chart included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and illustrates how different functions are performed at the vendor 16 in accordance with the operation of the databot 20 at the vendor. As a first step, the databot 20 is connected to a suitable data base such as the server 22. This is indicated at 204 in Figure 21. In the next step, the vendor's internet protocol address is selected. This is also shown
10 at 130 in Figure 14. The type of the database (e.g. Oracle) is thereafter selected as also indicated at 132 in Figure 14. A part or table of the database 134 is thereafter selected. This is also indicated at 134 in figure 14. As previously indicated, this part or table may be selected to provide a name and password for security purposes so that information can pass through the firewall between the vendor 16 and the purchaser's corporate office 10.

15 As a final step in Figure 21, the row for the indication of the inventory of the alternator is then selected as also indicated at 136 in Figure 14. Two (2) columns may be associated with each row. One column may indicate the inventory of the product such as the alternator. The other column shows the units of the alternator that have recently been dispensed since the last
20 time that the inventory on the alternator has been transmitted by the vendor 16 to the purchaser's corporate office 10. It will be appreciated that the second (2d) column may indicate the dispensing of the alternator over a different period of time than the last report to the purchaser's corporate office 10 without departing from the scope of the invention.

Figure 22 is a flow chart included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and indicates how the purchaser's corporate office 10 selects the location in the vendor's records of the different products (stock keeping units or "SKU's") sold by the vendor 16 to the purchaser 12. As a first step indicated at 206, the purchaser 12 enters all of the different types of products (SKU's) which the vendor sells to the purchaser. The purchaser 12 then assigns a location, indicated at 208, in which the information relating to each individual one of the different products or SKU's is located. The purchaser then selects the portion or table (including the row) of the vendor's database 22 where the inventory information relating to the different products (SKU's) is located. This is indicated at 210 in Figure 22.

The purchaser 12 thereafter selects the first column (see Figure 21) where the inventory information relating to each individual product (e.g. the alternator) is located. (See 212). The purchaser thereafter selects the second column (see Figure 21) which contains the information relating to the amount of the inventory shipped by the vendor 16 to its customers since the previous recording period. This is indicated at 214. As a final step indicated at 216 in the flow chart in Figure 21, the purchaser saves the information specified in Figure 21. It will be appreciated that the vendor 16 may save similar information in the databot 20.

Figures 23 and 24 are included in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815). Figures 23 and 24 constitute a composite flow chart indicating the operation of the vendor 16 in entering information controlling how they communicate with each other through the internet. As a first step indicated at 220 in Figure 23, the vendor 16 enters the remote location identification of the purchaser 12. As a next step (see 222), the vendor 16

enters the remote internet protocol address of the purchaser 12. The vendor 16 then enters the remote login and password to overcome the security barrier between the vendor and the purchaser to provide for the communication between the vendor and the purchaser through the firewall. This is indicated at 224 in Figure 23.

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As a next step as indicated at 226, the vendor 16 enters the remote e-mail address of the purchaser's corporate office 10. The vendor then enters the part number of the product (e.g. the alternator). See 228. The vendor may save the information. This is indicated at 230. The vendor thereafter asks (232) if the databot 20 at the vendor has established a remote connection with the purchaser's corporate office 10 through the internet. If the answer is no (234), the vendor 16 starts the process again as indicated at 220.

If the databot 20 at the vendor has established a communication with the purchaser's central office 10 through the internet, such an indication is provided at 236. The purchaser's corporate office 10 then enters the power site database 26 (see 238) and the purchaser's office enters the type of the local database (see 240). A connection between Figure 23 and 24 is indicated at 241. As shown in Figure 24, the purchaser's central office 10 then enters the name (242) of the local server and the local database name (244). The purchaser's central office enters the database login and password (246) to provide a communication through the firewall between the vendor 16 and the purchaser's corporate office 10. The purchaser's corporate office 10 thereafter enters the part number (248) of the product such as the alternator.

The purchaser's corporate office 10 may then decide to save the information as indicated at 250. If the information is not saved (see 252), the process is repeated starting with the step 242. If the information is saved (see 254), a decision is made as to whether the vendor should start to send data to the purchaser's corporate office. If the answer is no (see 258), this is the end of the successive steps shown in Figures 23 and 24. If the answer is yes as indicated at 260, the purchaser's corporate office 10 enters the day, and the time of the day, that the collection of the data is initiated. See 262.

As shown in the drawings and disclosed in detail in the specification, a system is provided in which the purchaser's corporate office 10 receives information from the vendor 16 concerning the inventories at the vendor of the product (e.g. the alternator) supplied by the vendor to the purchaser. This information is provided by the vendor 16 to the purchaser 14 periodically in accordance with rules established by the purchaser and transmitted by the purchaser to the vendor. One purpose of this arrangement is to provide the purchaser 14 with an opportunity to quickly obtain units of a product from the vendor when the purchaser is in short supply of the product.

Figure 25 schematically shows a preferred embodiment, generally indicated at 300, which is disclosed and claimed in co-pending application Serial No. 10/229,503 (attorneys file GCOMM-61815) and which is similar in many ways to the preferred embodiment shown in Figures 1-24 and described above. However, in many ways the roles of the vendor and the purchaser are reversed in the sense of who makes the inquiries concerning inventory of products and who provides the information relating to inventory of products. In the system shown in

Figure 25, the vendor 16 inquires of the purchaser's corporate office 10 concerning the inventory which the purchaser has at any instant of a product such as the alternator. The purpose of the inquiry is for the vendor to suggest to the purchaser 14 that the purchaser may wish to order additional units of a product such as the alternator when the purchaser's inventory of the product has dwindled to a relatively low level.

Figure 25 shows a power site data base 302 at the vendor similar to the power site database 26 at the purchaser's corporate office 10 in the preferred embodiment shown in Figures 1-24. Figure 25 also includes a server 304 at the purchaser 12 similar to the server 22 at the vendor 16 in the embodiment shown in Figures 1-24. Figure 25 additionally shows a databot 306 at the purchaser's corporate office 10 similar to the databot 20 at the vendor 16 in the embodiment shown in Figures 1-24.

As a first step as indicated at 308 in Figure 25, the purchaser's corporate office 10 loads the databot 306 in the server 304 so that the databot and the server provide a record of inventory at the purchaser of the different products supplied by the vendor to the purchaser. In the next step generally indicated at 310 in Figure 25, the purchaser's corporate office 10 runs the remote set up of the databot 306 to identify hardware, data and tables similar to those indicated at 130, 132, 134 and 136 in Figure 14.

The purchaser's corporate office 10 then operates the databot 300 on a local basis to establish a connection to the vendor 16 in a manner similar to the operation of the databot 20 on a local basis as shown in Figures 23 and 24 to establish a connection between the vendor and the

purchaser's corporate office 10. See 312 in Figure 25. As a final step, the databot 306 at the purchaser's corporate office 10 transmits inventory and data to the vendor to indicate to the vendor inventory levels of the different products at the purchaser 12.

5 The transmission of the inventory levels from the purchaser's corporate office 10 to the vendor 16 may be in accordance with established rules specifying the times for such transmissions controlling the operation of the purchaser's corporate office 10. These rules are probably established preferentially by the purchaser's corporate office 10 to provide a safeguard to the purchaser to make certain that the purchaser always has sufficient inventories of products
10 supplied by the vendor to the purchaser 12. However, the rules may also be established by the vendor 16 to provide a safeguard to the vendor for assuring that the purchaser 12 is always happy with its relationship with the vendor.

 Figure 26 shows an improved system for enhancing the speed of operation of the system
15 shown in Figures 1-25 and described above. In the system shown in Figure 26, the power site database 26 at the purchaser 12 provides a sequence of rules to the databot 306 at the purchaser. The power site database 26 then transfers the rules in the sequence to the databot 306 at the purchaser 12 and the databot transmits the rules to the databot 20 at the vendor 16. While the databot 306 is receiving each rule in the sequence from the power site database 26, the databot is
20 transmitting the previous rule in the sequence to the vendor 16. In this way, the speed of transmitting the rules from the purchaser 12 to the vendor 16 is enhanced.

The system at the vendor 16 operates in the same way as the system at the purchaser 12. The server 22 at the vendor 16 transfers transaction data in a sequence to the databot 20 at the vendor 16 and the databot transmits this data to the purchaser 12. While the databot 20 is receiving the transaction data relating to each transaction in the sequence from the server 20, the databot is transmitting to the purchaser 12 the transaction data relating to the previous transaction in the sequence. This enhances the speed of transmitting the transaction data in the sequence to the purchaser 12.

Figure 27 provides flow charts indicating how the system at the purchaser 12 is constantly alerted to transmit rules to the vendor 16 and how the vendor is constantly alerted to transmit transaction data (e.g. product inventory) to the purchaser. This constant state of alertness at the purchaser 12 and the vendor 16 simplifies and enhances the operation of the system. As a first step at the purchaser 12, the databot 306 is activated as at 352. A determination is then made (as at 354) as to whether the databot 306 has been configured to indicate the type of database 132 (Figure 14) being used and to select the portion or table 134 of the database where the transaction data of the transaction is located.

If the determination is made that the databot 306 has not been configured, the databot is reactivated as at 356 to obtain a new determination of configuration. If the determination is made that the databot 306 has been configured, the rules relating to the date and time for the transmission of transaction data (e.g. product inventory) from the vendor 16 to the purchaser 12 are transmitted to the purchaser 12. This is indicated at 358 in Figure 27.

A similar arrangement to that described in the previous paragraph is provided at the vendor 16. The databot 20 is initially activated as at 360. A determination (362) is then made as to whether the databot 20 has been configured to select the type of database and to select the portion or table in which the transaction data is located. If the answer is no (364), the databot 20 is reactivated. If the answer is yes (366), the databot transmits the transaction data relating to the transactions (e.g. product inventory) to the purchaser 12.

In the systems shown in Figures 1-27 and described above, the purchaser 12 obtains information from the power site database 26 to transmit transaction data relating to transactions. Figure 28 provides a flow chart in which a spreadsheet such as an Excel spreadsheet is used instead of the database 26 to transmit to the vendor 16 rules relating to transactions (e.g. product inventory).

As a first step 370 in the flow chart in Figure 28, the databot 306 at the purchaser 12 is set up to transmit rules to the purchaser 12. Setting up a databot such as the databot 306 is shown in Figure 21 and has been described in detail above. The user then enters the spreadsheet such as the Excel spreadsheet. This is indicated at 372 in Figure 28. The user then selects the column in the spreadsheet for the stock keeping unit whose rules relating to date and time are to be transmitted to the vendor 12. See 374. The user then saves this data as indicated at 376.

It will be appreciated that a flow chart similar to that shown in Figure 28 may be provided at the vendor 16. In this way, a spreadsheet can be provided at the vendor 16 to control

the transmission of transaction data relating to transactions (e.g. product inventory) to the purchaser 12.

Figure 29 is a simplified schematic diagram of the system for transmitting the spreadsheet data to the vendor 16. In Figure 29, the spreadsheet is indicated at 380. The spreadsheet data is introduced to personal computer hardware 382 which processes this data. The processed data is then introduced to the databot 306 at the purchaser 12 for transmission to the vendor 16.

The disclosure above has related to a system and method where a customer pre-selects the times that a vendor is to indicate to the customer the inventory of the different products that the vendor supplies to the customer. The disclosure above also relates to a system and method where a vendor pre-selects the times that a customer indicates to the vendor the inventories that the customer has of the different products that the vendor supplies to the customer. One purpose of both of the system and methods described above is to provide an efficient operation in which the customer maintains a minimal inventory of different products while being assured that it will not be without any inventory of the different products at any instant of time and in which the vendor maintains a minimal inventory of the different products supplied by the vendor to the customer while being assured that it will be able to supply the different product to the customer at all times.

This application relates to a system and method which operates on the same philosophies as described above to process orders provided by a customer to a vendor for products supplied by

the vendor to the customer. In the system and method of this invention, the vendor accumulates orders provided by the customer to the vendor and fulfills, at times pre-selected by the customer, the orders accumulated by the vendor from the customer. The vendor also indicates at the pre-selected times the orders accumulated by the vendor from the customer, and the status of these orders, at the pre-selected times. In a preferred embodiment, the customer may indicate to the vendor for each order whether the customer wishes to have the order prosecuted promptly and shipped promptly by the vendor to the customer or whether the customer is willing to have the order executed at the time pre-selected by the customer. The components and the flow charts for these systems and methods are shown in Figures 30-37.

Figure 30 is a schematic diagram, primarily in block form, of a system indicating, at times pre-selected by one of a corporate customer and a vendor, the status of orders previously provided by the corporate customer to the vendor. The term "corporate customer" has been used advisedly. Although the "customer" has been referred to as a "corporate customer" because most customers will probably be corporate, it will be appreciated that any type of customer is intended to be included within the term "corporate customer."

In Figure 30, a status checking of orders is provided. A corporate customer generally indicated at 400 includes a corporate office 402, a database 404 and a personal computer (PC) 406 with facilities to communicate with all of the local offices of the corporate customer and obtain data from these offices. The personal computer 406 may be considered as a corporate connect between the corporate office 402 and the different branch offices of the corporate customer 400. The corporate office 402 includes a databot 408. The corporate office 402 is

shown in Figure 30 as being connected to the database 404 and the personal computer 406. A vendor generally indicated at 410 is also shown in Figure 30 as including a databot 412. A server database 414 is connected to the vendor 410. The vendor 410 and the corporate customer 400 communicate with each other through the internet 416.

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At times pre-selected generally by the corporate office 402 but also, or alternatively, capable of being pre-selected by the vendor 410, the vendor 410 sends the status of the orders accumulated by the vendor from the corporate office for each product being supplied by the vendor to the corporate office. This status may include each order, and the date of each order,
10 received by the vendor 410 from the corporate office 402 for each product, the entry of each order into the corporate sales records of the vendor and the shipment (or fulfillment), and the date of shipment, of each order by the vendor 410 to the corporate office 402. The status report accordingly includes the orders still unfulfilled by the vendor for each product as of the pre-selected date.

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Figure 31 is a flow chart showing how the corporate customer 400 places an order with the vendor 410 for a product and views the status of the order at the corporate office. The corporate customer 400 starts the order at 418. As a first step for each product, a customer service representative (or order entry clerk) of the corporate customer 400 logs into the different
20 branch offices (see 420) to determine the orders that the branch offices would like to make for the product. The customer service representative (or order entry clerk) then orders a quantity of the product from the vendor 412 that is an accumulation of the orders for the product from the

different branch offices. The corporate service representative then requests an order status of the product from the vendor 412. This is indicated at 422.

5 The corporate service representative then receives from the vendor 410 and reviews the status of the orders provided by the corporate office 402 to the vendor 410 for the product as indicated at 424 in Figure 31. The status for the product may include the orders that have been opened at the vendor 410, the status of the orders that are still open and the status of the orders for the products that have been shipped. The status report for the product may be provided at the time pre-selected by one of the corporate office 402 and the vendor 410. The sequence of
10 operations is ended at 426.

Figure 32 is a schematic diagram, primarily in block form, of a system indicating the provision of order information from the corporate customer 400 to the vendor 410 and the provision from the vendor to the customer of status information concerning these orders. Figure
15 32 includes, at the corporate customer 400, the corporate office 402, the corporate database 404, the PC order connection 406 and the databot 408. Figure 32 also includes at the corporate customer 400 corporate hardware 430 which is connected between the corporate office 402 and the corporate database 404. Figure 32 additionally includes vendor hardware 432 which is connected between the vendor 410 and the vendor database 414.

20 The corporate customer provides order information to the vendor 410. This information includes the name of the corporate customer, the customer address, the identification of the stock keeping unit (or product) being ordered and the quantity of the product (or stock keeping unit)

being ordered. The vendor 10 in turn provides information confirming the receipt of the order from the customer, the entrance of the order into the records of the vendor and the shipment (or partial shipment), and the date of shipment (or partial shipment) of the order.

5 Figure 33 is a flow chart indicating the passage of information concerning the status of orders from the databot 408 at the corporate customer 400 to the databot 412 at the vendor 410 and then from the databot at the vendor to the databot at the customer. The start of the process in Figure 33 is indicated at 434. As a first step indicated at 436, the customer service representative at the corporate customer 400 enters an order from a purchaser. The databot 408 at the corporate
10 customer 400 receives this entry and transmits the order to the vendor 410. This is indicated at 438. The databot 412 at the vendor 410 receives this order and updates the database 414 at the vendor. (See 440). The vendor databot 412 monitors the vendor database 414 to signal an order status change. (See 442). As indicated at 444, the vendor databot 412 sends to the corporate customer 400 the following: (a) the receipt at the vendor 410 of the order from the corporate
15 customer, (b) the entry of the order into the vendor database 414 and (c) the shipment, and the date of shipment, of the products specified in the order. The databot 408 at the corporate customer 400 then goes to the start position 434 to await the preparation of another order at the corporate customer 400.

20 Figure 34 is a schematic diagram, primarily in block form, showing the transfer of orders from the database 404 at the corporate customer 400 to the database 414 at the vendor 410. Figure 34 includes the corporate office 402, the database 404 and the PC order connect 406. Figure 34 further includes the vendor 410, the databot 412 at the vendor and the server database

414. The corporate office machine 412 transmits the order through the internet 416 to the vendor 410.

Figure 35 is a flow chart indicating the initial determination at the corporate customer 400 of the availability of a product at the vendor 410 and the subsequent submission of an order of the product by the corporate customer to the vendor upon a determination at the corporate customer of the availability of the product at the vendor. A start of the process is indicated at 450 in Figure 35.

As a first step indicated at 452, an order entry clerk at the corporate customer receives an order from a purchaser to buy units of a product and enters the order (See 452). The order entry clerk at the corporate customer 400 then enters the purchaser's name and the name of the product and provides a connect to determine if the branch offices of the corporate customer have units of the product being ordered and, if so, the number of units in their procession. This is indicated at 454 in Figure 35. The order entry clerk then determines the product availability at the vendor 410 is indicated at 456. An indication is provided at 457 of the availability 100, or the lack of availability, of the product at the vendor 410.

If the product is not available at the vendor 410, the program returns to the start position 450. (See 458). If the product is available (see 460) at the vendor 410, the order entry clerk contacts the vendor 410 as at 462 and enters the order information and sends data to the vendor concerning the type of products being ordered and the number of units of the products being ordered. The order information may also include the purchaser's name and address and the

pre-selected future date for delivery of the product by the vendor to the corporate customer. This is the end of the sequence as indicated at 466.

Figure 36 is a flow chart providing the corporate office 400 with the opportunity of obtaining shipment of an order from the vendor 410 either (a) promptly or (b) at the pre-selected future time. The start of the process is indicated at 500. As indicated at 502, steps corresponding to the steps 452, 454 and 456 in Figure 35 are then performed by the order entry clerk at the corporate customer 402. The entry order clerk then determines (see 503) if the product being ordered is available at the vendor 410. This corresponds to the step 457 in Figure 35. If the product is not available at the vendor 410 as indicated at 504 in Figure 36, the sequence returns to the start position 500 as indicated at 504. This corresponds to the indication 458 in Figure 35.

If the product being ordered is available at the vendor 410, this is indicated at 506 in Figure 36. It corresponds to the indication 460 in Figure 36. As indicated at 508 in Figure 35, the order entry clerk then communicates the order to the vendor 410. This corresponds to the step 462 in Figure 35. The order entry clerk then determines whether he or she wishes the order to be filled promptly. (See 510). If the answer is yes (see 512), the order entry clerk communicates with the vendor, as at 514, and enters the order information and sends this information to the vendor 410 with instructions to the vendor to fill the order promptly. This is indicated at 516 in Figure 36. The end of the process then occurs as at 518.

. . . .

If the order is not to be filled promptly, a “no” indication is provided as at 520. The order entry clerk then determines, as at 522, whether the order is to be filled at a pre-selected future time. If the answer is “no”, as indicated at 524, the order entry clerk is returned to the start position. If the answer is yes, an indication is provided as at 526 to this effect. The order entry clerk then communicates the order to the vendor 410 (and 527). The order entry clerk then enters the order information and sends data to the vendor 410 with instructions to fulfill the order at the future time pre-selected for orders of the product to be fulfilled. The end of the process then occurs as at 518.

Figure 37 is a flow chart showing how the vendor 410 processes the information provided to the vendor by the operation of the flow chart shown in Figure 36 and described above. The operation of the process shown in Figure 37 is initiated at 540. As a first step indicated at 542, the vendor receives the order from the corporate customer 400. The vendor then determines whether the order is to be fulfilled by the vendor immediately. This is indicated at 544. If the answer is yes (see 546), the vendor fulfills the order immediately. This is indicated at 548. The operation is indicated at 549 as being completed.

If the order is not to be fulfilled immediately, an indication is provided on a line 550. A determination is then made as at 552 whether the order is to be fulfilled at the future pre-selected time. If the answer is no (see 554), an indication is provided to the start position 540 to initiate a new sequence as shown in Figure 37. If the answer is yes (see 556), the vendor 410 fills the order at the pre-selected future time and ships the products in the order to the corporate customer

at the future pre-selected time. This is indicated at 552. The operation is indicated at 549 as being completed.

Although this invention has been disclosed and illustrated with reference to particular
5 embodiments, the principles involved are susceptible for use in numerous other embodiments
which will be apparent to persons of ordinary skill in the art. The invention is, therefore, to be
limited only as indicated by the scope of the claims.